LAW OFFICES OF
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TO State of Utah
Natural Resources
Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

DATE February 20, 1987

SUBJECT Consolidated Mining Plan, ACT/047/013, Uintah County, Utah

Attention: Susan Linner
Reclamation Biologist/
Permit Supervisor

Dear Ms. Linner:

Pursuant to your letter of September 9, 1986, enclosed for your review please find the Mining Plan for Ziegler Chemical and Mineral Corporation, Gilsonite Mines, Uintah County, Utah.

Very truly yours,

NIELSEN & SENIOR

M Chapman

Mary Chapman
Legal Assistant

Enclosure

MINING PLAN FOR

ZIEGLER CHEMICAL AND MINERAL CORPORATION

GILSONITE MINES

UINTAH COUNTY, UTAH

FEBRUARY, 1987

Prepared By:

Law Firm of Nielsen & Senior

363 East Main Street

Vernal, Utah 84078

The following Mine Reclamation Mine Plan is submitted as a supplement to the July 6, 1986 Mine Plan and addresses the issues raised in Susan C. Linner's letter of September 9, 1986.

Rule M-3 Notice of Intention to Commence Mining Operations

(1)(a) The applicant shall submit a complete map of sufficient scale to clearly show the locations of lands affected by mining operations or proposed operations since July 1, 1972 or as described under "Lands Affected" Rule M-2(d). Total area affected in acres shall be given.

Response. Refer to Maps A-1 and B. Approximately 31 ? acres are affected.

(1)(b) On a map show all inactive and active mine sites for each area. Indicate the dates the sites were mined. Maps should be of sufficient scale to clearly define each mine site.

Response. Map A-1 shows 11 inactive mine sites which were mined prior to 1972. The exact dates of mining activity are unavailable.

(1)(d) Submit a map that clearly show the locations of all lakes, rivers, reservoirs, streams, creeks, springs, roads, buildings, transmission lines and other structures.

Response. Refer to Maps A-1, B. C-1, and C-2 through C-14. The transmission lines in the area are owned by Moon Lake Power Company, consequently the reclamation of the power lines would be under the direction and supervision of the power company.

(1)(e) The application does not include a drainage plan for the areas from which the overburden or topsoil will be or has been removed.

Response. There will be a minimal amount of drainage at each mine site. Drainage would not be affected by overburden.

(1)(f) On a map of sufficient scale, show the locations of bore holes, oil, gas and water wells on and adjacent to the mine areas. Map scale should be at least 1:62,500. The applicant shall identify all areas mined since July 1, 1977 or described under "Lands Affected" Rule M-2(d).

The application does not include information relative to the depth of the various water bearing strata encountered in test borings or mining to date. If none exist, the application should justify the statement with locations of borings and/or a description of mining completed to date.

Response. There are no bore holes, oil, gas or water

wells on or adjacent to the area that we are aware of.

(1)(h) The applicant shall describe the regional groundwater system, how mining affects or influences the groundwater system, where and how much water is contacted in the mines, the quality of the groundwater, and how groundwater is planned to be discharged should be presented, including NPDES permits for all current and anticipated point sources of discharge.

A reclamation map should be provided showing the location and type of revegetation work to be accomplished on the site. This map could be made in conjunction with the disturbed area map.

Response. Refer to Map A-1 and Individual Site Maps C-2 through C-14 for indication of drainage routes. Discharge is described in the attached NPDES permit. The groundwater presently encountered has been minimal and any groundwater which is encountered is pumped through an underground line to a water disposal point. What groundwater there is drains for approximately 700 to 800 feet before being reabsorbed into the ground. The water is tested on a regular basis and does not contain contaminants sufficient to pose any problem. Any discharged water on the surrounding area is beneficial to the environment. The wildlife grazing in the area utilize the water and the discharge is supportive to the sparse vegetation in the vicinity.

(1)(g) The operator needs to provide the location and extent of storage areas for topsoil, overburden and other waste or rejected material generated on site.

Response. Refer to Individual Site Maps C-2 through C-14.

(2)(d) The operator shall provide a comprehensive plan including mass balances for the determination of topsoil stripping and distribution and redistribution of overburden and waste materials for the site. Maps should be provided showing the post mining and the post reclamation contours for the site as well as any cross sections that may be appropriate. The operator has provided preliminary maps and information regarding this but will have to provide more specific information for at least the first five year permit term.

Response. Refer to Individual Site Maps C-2 through C-14.

(5) All exploratory drilling and related functions shall be included in the application under the requirements of M-3(5) and

specific information related to all holes presently drilled or proposed be presented as detailed in M-3(5)(a) through (d).

Report form MR-9 shall also be filed with the Division for all mineral exploration work undertaken and approved within the limits of this rule. It shall not be filed in lieu of reporting requested under Rule M-8.

All holes made as step outs to an initial proposed drilling program should be described in (a) through (d) above to the Division as soon as possible. The additional information may be filed as an addendum to the original notice and will not require approval.

Response:
(5)(a) It is not contemplated that any exploratory drilling will be performed, ergo there will be no drill holes, cuts and roadways, air strips or other ground disturbances related to the operation.

(5)(b) As no exploratory drilling is to be undertaken, the general dimensions of all drill holes is not applicable.

(5)(c) As no exploratory drilling is to be performed, the plugging program for drill holes is not applicable.

(5)(d) As no exploratory drilling is to be performed, reclamation for ground disturbances is not applicable.

Rule M-3 Notice of Intention to Commence Mining Operations

(2)(c) The operator must describe the manner in which topsoil is stored at each mine site. This description shall include the maximum slopes, cross-sections and contours of all topsoil stockpiles. To insure the proper depth of the plant supporting materials, the operator must include a commitment to measure redistributed topsoil at the time of reclamation.

Response. Refer to Individual Site Maps C-2 through C-14.

(2)(c)(2) The operator has stated in attachments C and D of the mine plan that no toxic or acid producing overburden materials exist. However, in attachment F, page 1 of 3 of the MR-2 and attachment D, page 1 of 3 of the MR-2 the overburden waste materials have been classified as acid or alkali producing. This discrepancy must be clarified through analysis and presentation

of the overburden data within the mine plan.

Sampling need only be done in those areas where overburden will be disposed of. Analysis shall include but not be limited to the following parameters: pH, texture, calcium carbonate percentage, sodium, calcium, magnesium, sodium absorption ratio (SAR), and electrical conductivity (EC). If the analysis proves the material to be acidic or toxic (ie. SAR greated than 15) the operator must describe the manner and location in which the overburden material will be disposed, the volume of the fill area, projected cross sections before and after the overburden is backfilled and disposed of and the manner in which plant supporting soil materials will be placed over the overburden. The operator must insure that soil materials are not lost through the voids within the disposed overburden. This may be accomplished by running a grader several times over the overburden material.

Attachment E of the mine plan does not contain any narrative as to the possible disposal of waste rock.

> Response. The plan of operation of Ziegler Chemical does not generate the creation of any overburden. Any waste rock resulting from he mining operations will be disposed of by dumping the waste rock into the hole which is being reclaimed prior to sealing the hole.

(2)(d) The Division recommends that the operator implement contour furrows in all reclamation areas that exceed a 2:1 slope.

> Response. No site will have a slope in excess of 2:1.

(2)(f) The operator must include a timetable for each major task to be accomplished. For example, how much time would lapse between topsoil redistribution and reseeding?

> Response. Refer to Individual Site Maps C-2 through C-14. Reseeding will be commenced the fall after the mine has been completely reclaimed.

Rule M-3 Notice of Intention to Commence Mining Operations

(2)(a) & (b) The applicant must provide a statement of known prior and current land uses, the capability of the surface resources to support a variety of uses and the possible uses of the land following termination of mining.

> Response. Prior Use: Minimal wildlife grazing

Current Use: Mining and minimal wildlife grazing.
Projected Future Use: Same as current uses above.

(2)(e) The applicant must provide a revegetation plan for the areas affected, including:

1. species to be planted or seeded and the stocking or seeding rate for each species.

2. type and rate of mulch to be used.

3. methods to be used in planting/seeding and mulching.

4. timing, including approximate dates for seeding/planting.

Response. Refer to Tables 1 & 2.

Rule M-5 - Surety Guarantee

Under the intent of the Mined Land Reclamation rules and regulations, the operator must provide a contingency for abandonment of the mine site in the form of a Surety Guarantee as prescribed in Rule M-5.

Design, estimates and drawings for reclamation activities should be made for at least the term of the mine permit, and if possible for the life of the mine. Regardless of the expected life of the mining operations, reclamation plans and cost estimates must be provided. Bonding calculations and surety as well as the detailed information for mining operations are usually based on a 5-year permit term, especially for long life-of-mine operations.

In order for the Division to determine the amount of surety to be provided, the operator must first submit a complete reclamation plan. Bonding requirements for the permit will be based on the worst case conditions during the permit terms and the Division's costs to perform reclamation. In order to determine the worst case conditions during the permit term, the operator must provide sufficient plans of operations as detailed under Rule M-3. Quantities of various reclamation activities should be based on and provided in information given in Form MR-1.

The basis for the surety amount will be the quantities and the scope of work as required in the reclamation plan. In order to determine the amount required for reclamation, productivity calculations for equipment and unit costs must be determined.

Reference materials used by the Division in bond cost estimating are; the "RENTAL RATE BLUE BOOK," the MEANS SITE WORK COST DATA" and "CATERPILLAR PERFORMANCE HANDBOOK". These documents will be the source of data for finalizing cost estimates. The Cat Book gives the productivity rates for each size of equipment manufactured by Caterpillar. The Cat Book also gives a selection of operational factors that affect machine production. Each of these adjustment factors must be considered for use in the final calculations. Likewise, the Blue Book presents the cost of renting various pieces of equipment used in the mining industry, particularly those used for earth work in reclamation activities. These costs range from hourly to monthly costs. In addition, the hourly operation costs must be included to account for fuel consumption and maintenance costs. The Blue Book cost does not include operator costs. The Means Book is used to determine labor and operator costs. As with the Blue Book rental rates for equipment, labor costs must also be estimated at subcontractor rates with overhead and profit included. The Means Book provides labor rates with these factors included. Additionally, inflation factors for bond estimates are derived from Means Cost Data. Inflation rates for construction during the previous three years are averaged and applied to the cost estimate as an inflation factor.

The operator may use other sources of information to determine reclamation cost. The estimate provided by the operator shall contain as a minimum, the quantities, equipment selection, productivity and general methodology used in determining the reclamation cost estimate. The basis or methodology used by the operator shall be referenced and sufficient calculations and drawings should be provided by the operator so that a final cost estimate can be made and the amount determined for surety by the Division.

The amount of the surety bond may be updated when changes to the mining plan or operation occur or at such time when the Division determines that changes in construction costs, escalation or other such factors warrant adjustment of the bond amount. The operator may request informal review and discussion of the bond amount and how it was determined at any time within the life of the permit.

Response. Refer to Exhibits 1-12 for bonding calculations. Rates are based on estimates for local vendors and contractors as well as from the bonding estimate received from the letter of July 8, 1986 from the Division of Oil, Gas & Mining. Also, reclamation of all sites will not occur simultaneously, but rather the equipment, buildings, machinery, etc. at a site being reclaimed would be moved to an existing site at

the time of reclamation.

Rule M-6 Plans and Maps

The applicant shall submit a description of the regional geology accompanied by geologic maps, cross-sections and references.

The geologic description should also depict the geologic setting in relationship to mining areas.

Geologic maps and cross-sections shall detail formations, altitudes of formations, structural features such as faults, folds, fracture zones, exploration drill holes, oil wells, gas wells and water wells.

Submit generalized longitudinal and cross-sectional diagrams of a typical mine section.

Response. Refer to Exhibit 13.

Rule M-6 Plans and Maps

Additional maps and plans should be provided which depict the post mining and the post reclamation contours for the site including the mill and tailings areas and other areas disturbed as a result of mining activities.

As Exhibit "A" of the surety bond, the operator is required to provide a legal description of the affected area. This may be accomplished by furnishing a true and correct map of the area locating the affected area included in the bond amount and their respective acreages.

The Operator shall submit to the Division, sufficient contour maps and/or cross sections to determine the following:

1. The location and disposition of all waste materials generated from the mining and processing operations.

2. The post mining contours of the area, sufficient in detail to determine surface drainage patterns, final slopes of the area, and sufficient details to determine earth work calculations required for regrading for reclamation bonding cost estimates.

3. The location, depths, quantities and area extent for topsoil and non-toxic cover materials sufficient in order to determine mass balance quantities for the earth work and for estimates for earth work calculations.

4. In areas where the post mining contours shall vary

significantly from the post reclamation contours, the Operator shall provide contours and/or cross-sections sufficient to determine the amount of material required for earth work calculations.

Response. Refer to Map A-1 and Individual Site Maps C-2 through C-14. There will be no major change in the contour of the land from the beginning of the mining operation through completion. Consequently there will be no change in drainage.

Rule M-10(1) Land Use

The Operator must include in the reclamation plan, provisions for post-mining land use compatible with probable land uses on abandonment.

Response. As previously indicated, post-mining land use would consist of minimal wildlife grazing. Reclamation of the abandoned site would included sealing the shaft with a 12" thick cap of reinforced concrete. All buildings, machinery and debris would be removed from the site. Any areas where the surface has been disturbed will be regraded to rounded cross-sections. Where possible, soil material will be placed over the building sites and storage areas prior to reseeding. These areas will be covered with soil and seeded with plants and vegetation compatible with the surrounding plant life and arid conditions.

All disturbed soil will be scarified and fertilized prior to reseeding. Reseeding of the area will be completed and based on the recommendations of personnel at the Division of Oil, Gas & Mining. The foregoing would be performed in order to provide for the post-mining land use of minimal grazing for any wildlife in the area.

Rule M-10(2) Public Safety and Welfare

The applicant shall describe the process for closing mine openings, shafts and drill holes. Maps should be submitted to depict the location of sites to be closed and cross-sections submitted to illustrate the methods to be used.

(b) The operator needs to address the disposal of trash and debris in the mine plan. The operator should propose a plan for and commit to a disposal plan for waste materials incidental to mining and that plan should be in accordance with the Rules and

Regulations of the State Division of Health.

(c) The operator has not submitted in the reclamation plan, any proposal or plans for the plugging and capping of drill, core or other exploratory holes as set forth in Rule M-3(5).

(e) The operator should provide information as to what safety measures are being implemented for protection around shafts or other excavations at the site.

> Response. Mine openings will be covered with a 12" cap of concrete or steel grading. If the mine will be used for ventilation purposes, steel grading will be used. The steel grading will be of a mesh type with 1½" holes. It is not anticipated that any of the active mine sites will be closed in the foreseeable future.
>
> (b) The operator will construct a fenced enclosure approved by the State Department of Health and will burn all combustible trash. Any non-combustible trash will be hauled to an approved landfill site within the County and disposed of at that landfill. Refer to Exhibit 16.
>
> (c) It is not anticipated that any exploratory drilling will take place. Consequently, no proposal for the plugging and capping of drilling, core or other exploratory holes as set forth in M-3(5) is necessary.
>
> (e) It is the policy of Ziegler Chemical that any shafts or excavated areas are fenced and posted and to periodically inspect any fences and repair as necessary. All active mine shafts are fenced and abandoned mine shafts are either fenced or capped with a 12" thick reinforced concrete slab.

Rule M-10(3) Impoundments

The Operator has not provided in the drainage plans, measures used to regrade impounding areas to be self-draining. Sufficient detail in the reclamation plan to prevent permanent impoundments from occurring on the site must be provided.

> Response. Ponds are not currently utilized int he mining operations of Ziegler Chemical and it is not anticipated that any impoundments will be constructed.

Rule M-10(4) Slopes

As part of the reclamation plan, the operator shall, if possible,

regrade all waste piles and fills to a rounded configuration and to such slopes so as to minimize safety hazards and erosion. Such fills or waste piles need to be identified by the operator. The operator should also estimate and quantify final size and configuration of both the cuts and the waste piles for at least the permit term.

Plans for fills and waste piles should also include a description of proposed drainage control, surface erosion control and vegetation to be used for stabilization of the slopes. Grading of the material should be such that the slopes and the terrain blend in with the surrounding natural terrain.

> Response. Refer to Individual Site Maps C-1 through C-14.

Rule M-10(7) Roads and Pads

The operator has provided information as to the type and procedures used for developing and maintaining roads within the permit area. Reclamation of roads and pads should be addressed in the plan. Although the expected mine life makes it difficult to determine final configuration and details, the operator should consider existing and proposed roads and pads for the permit term.

Roads used for and in conjunction with the mining operations should be included in the affected area.

The application must contain a description of the reclamation of all mining related roads relative to provisions for adequate surface drainage, erosion protection and unrestricted drainage crossings. Drainage plans for all roads should be based upon a design event equivalent to a 10 yr. - 24 hr. precipitation event.

> Response. Major access roads are part of the network used by the public in this area and are located on BLM land. These main roads will not be reclaimed. Roads used specifically to access mine sites and facilities will be reclaimed as soon as the sites associated with them have been completely reclaimed by filling in barrow pits, roughing the surface and reseeding. Where necessary to prevent further traffic, ditches or fences will be installed at the ends of the road.

Rule M-10(8) Drainages

The operator has not sufficiently addressed concerns regarding the ultimate layout for the facilities. Drawings and designs will be required indicating the expected ultimate contours for

reclamation including the establishment of surface drainage and water diversions. Post reclamation conditions for drainage and surface water control have not been sufficiently addressed.

The application does not contain information relative to crossing and/or blocking natural drainage routes. If no such activity is or will occur, then the application must demonstrate this contention with adequate maps and descriptions of the site. The applicant must present plans for the removal of any current or proposed drainage structures.

> Response. Refer to Map A-1 and Individual Site Maps C-2 through C-14. Any drainage occurring drains into a dry wash for approximately 700 to 800 feet before being reabsorbed into the ground. The water is tested on a regular basis and does not contain contaminants sufficient to pose any problem.

Rule M-10(9) Structures and Equipment

The operator needs to identify and commit to demolition and removal of all structures, utility connections, equipment and debris prior to regrading and abandonment. Plans and estimates for the demolition and removal of such facilities shall be included as part of the reclamation cost estimate for the site. Approval may be granted for continuing or post mining land use for structures and equipment as may be appropriate.

> Response. Demolition and removal of structures, equipment and debris would be performed by the personnel employed at Ziegler Chemical. Removal of structures and equipment would not occur at all sites simultaneously, but would be transported from a site in the process of being reclaimed to a working site in existence. Transmission lines in the area are owned by Moon Lake Power Company. Reclamation of the power lines would be under the direction and supervision of the power company. Refer to Exhibits 1-12 for specific calculations.

Rule M-10(11) Sediment Control

The application must contain plans for control of sediment from all disturbed areas. It is recognized that sediment control structures for this area will be minimal (i.e. berms, silt, fencing and straw bales). Sedimentation ponds will not be required at the current sites.

Response. Refer to Individual Site Maps C-1 through C-14.

Rule M-10(12) Revegetation

The applicant must provide an estimate of vegetation cover (using professionally accepted methods) for the Cottonwood Area (Attachment "E") and the Zieglers Federal #1 Weaver Area

Response. Refer to Tables 1 & 2 in Appendix for a typical seed mix which is frequently used for revegetation in the area.

Prior to reclamation of each mine site, a soil analysis will be taken in order to ascertain any deficiencies or imbalances. Additions of nitrogen, phosphate, potassium, calcium sulfate or other additives will be added in the event of non-suitable soil conditions. Upon reclamation, reseeding of each mine site will be site specific and will be based on the recommendations of personnel at the Utah Department of Oil, Gas & Mining. This would be the recommended procedure followed for reclamation of the Cottonwood area and the Ziegler Federal #1 Weaver area, as well as for any other site to be reclaimed.

Rule M-10(13) Dams

The plan must contain information relative to any foreseen tailings dams, water storage and supply dams, and sedimentation ponds relative to design, operation and reclamation.

Response. Not applicable for an underground mine.

Rule M-10(14) Soils

Fertility: The operator has committed to test the soil at the time of reclamation. However, no soil fertility analysis was included within the mine plan at this time. In order to develop a comprehensive reclamation plan, the applicant must analyze the soil materials. Because of the wide soil diversity throughout the mining area, no generic fertilizer plan would be possible. The applicant must specify a fertilizer management plan for each mine location. Both the disturbed soils and the undisturbed soils at each disturbed mine site plus the soils at each undisturbed mine site must be analyzed for the following parameters: pH, electrical conductivity, calcium, magnesium, sodium, sodium absorption ratio, texture, available phosphorus, and saturation percentage.

Response. See Exhibit 14 for results of soil analysis.

Prior to the reclamation of any individual site, a soil analysis will be performed in order to determine any imbalances or deficiencies in the soil. Concurrence with personnel at the Utah Department of Oil, Gas & Mining will ascertain the type of fertilizer would be most beneficial to the site being reclaimed.

Storage: Pursuant to the previous comment in Rule M-3(1)(g) and (2)(c) the soil stockpiling plan must include the following:

A) The manner in which topsoil will be excavated, stockpiled and redistributed.

B) The depth of removal, acreage and volume of soil stockpiled for each corresponding site.

C) A commitment that all stockpiled soil will be in level locations, protected from wind, water erosion, vehicular traffic and contaminants.

D) Description of maximum slopes and shape.

E) Commitment to rehabilitate the soil stockpile by seeding and fertilization. Include fertilizer, seed mix and rates.

Response. Refer to Map A-1, Individual Site Maps C-1 through C-14 and Tables 1 & 2. The method of excavation and mining employed by Ziegler Chemical results in the removal of virtually no topsoil.

Redistribution: The soil redistribution plan must include equipment, methodology, volumes and the depth of redistribution for each mine site. Only the Weaver Canyon mine plan included a topsoil redistribution depth. The operator iterates that all other sites will have soil redistributed (but no depths given) where possible. Please define the reasons why and the locations where soil redistribution is not possible. How will the operator ensure a suitable growth medium in those locations where the soil will not be redistributed? For all other mine sites, please include the depths of soil redistribution. If these areas include onsite "disturbed soils" for final reclamation, a specific soil management plan shall be devised for each location. These plans would be dependent on the previously mentioned soil analysis. It would be advisable to rip these areas to a depth of ten to twelve inches and possibly incorporate an organic amendment for physical enhancement of the soil. The exact organic amendment would depend on the fertility analysis.

Response. As there is virtually no topsoil removed in the mining process, there is no need for redistribution. Any disturbed soil contains more silt, which is consequently a better growth medium for vegetation. Any topsoil which would need to be redistributed is identified on the Individual Site Maps C-1 through C-14.

EXHIBITS

Exhibit 1	Bonding Calculations - Independent #3
Exhibit 2	Bonding Calculations - Independent #4
Exhibit 3	Bonding Calculations - Independent #5
Exhibit 4	Bonding Calculations - Little Bonanza #1
Exhibit 5	Bonding Calculations - Little Bonanza #3
Exhibit 6	Bonding Calculations - Little Bonanza #11
Exhibit 7	Bonding Calculations - Little Bonanza #12
Exhibit 8	Bonding Calculations - Little Emma
Exhibit 9	Bonding Calculations - Cottonwood #1
Exhibit 10	Bonding Calculations - Cottonwood #2
Exhibit 11	Bonding Calculations - Totals
Exhibit 12	Bonding Calculations - Shops, Plant & Other Facilities
Exhibit 13	Geologic Description
Exhibit 14	Soil Analysis
Exhibit 15	NPDES Permit Information
Exhibit 16	Letter from Lowell Card, Environmental Health Director
Table 1	Ziegler Chemical Revegetation Plan
Table 2	Seed Mix

INDEPENDENT #3

Dismantleing and Site Cleanup

Structure Removal

30 Ton Crane	4 hrs @ $101.16/hr	$ 404.64
Laborers	4 men 2 days @ $140/man/day	1,120.00

All equipment to be used in the process owned by Ziegler except for the crane

Sub-Total	$1,524.64

Earthwork and Grading

Grader - Front End Loader, Dump Truck
(Equipment owned by Ziegler man hours only)

2 hrs 3 men @ $17.50/hr.	$105.00

Revegation

As per state figures

1.38 ac. @ $667.92/Acre	$921.73

Capping	4 yds @ $63/yd.	$250.00
	4 hrs labor @ $17.50/hr.	70.00
	Sub-Total	$320.00
	TOTAL	$2,871.37

EXHIBIT 1

INDEPENDENT #4

Dismantleing and Site Cleanup

Structure Removal

30 Ton Crane	4 hrs @ $101.16/hr	$ 404.64
Laborers	4 men 2 days @ $140/man/day	1,120.00

All equipment to be used in the process owned by Ziegler except for the crane

Sub-Total	$1,524.64

Earthwork and Grading

Grader - Front End Loader, Dump Truck
(Equipment owned by Ziegler man hours only)

2 hrs 3 men @ $17.50/hr.	$105.00

Revegation

As per state figures

1.41 ac. @ $667.92/Acre	$935.09

Capping	4 yds @ $63/yd.	$250.00
	4 hrs labor @ $17.50/hr.	70.00
	Sub-Total	$320.00
	TOTAL	$2,871.37

EXHIBIT 2

INDEPENDENT #5

Dismantleing and Site Cleanup

Structure Removal

30 Ton Crane	4 hrs @ $101.16/hr	$ 404.64
Laborers	4 men 2 days @ $140/man/day	1,120.00

All equipment to be used in the process owned by Ziegler except for the crane

	Sub-Total	$1,524.64

Earthwork and Grading

Grader - Front End Loader, Dump Truck
(Equipment owned by Ziegler man hours only)

D6 Dozer	5 hrs @ $76.12	$380.60
	3 men 4 hrs @ $17.50/hr.	210.00

Revegation

As per state figures

	1.20 ac. @ $667.79/ac.	$801.50
Capping	4 yds @ $63/yd.	$250.00
	4 hrs labor @ $17.50/hr.	70.00
	Sub-Total	$320.00
	TOTAL	$3,166.74

EXHIBIT 3

LITTLE BONANZA #1

Dismantleing and Site Cleanup

Structure Removal

30 Ton Crane	4 hrs @ $101.16/hr	$ 404.64
Laborers	4 men 2 days @ $140/man/day	1,120.00

All equipment to be used in the process owned by Ziegler except for the crane

Sub-Total	$1,524.64

Earthwork and Grading

Grader - Front End Loader, Dump Truck
(Equipment owned by Ziegler man hours only)

4 hrs 2 men @ $17.50/hr.	$140.00

Revegation

As per state figures

2.11 ac. @ $667.92/ac.	1,409.03

Capping	4 yds @ $63/yd.	$250.00
	4 hrs labor @ $17.50/hr.	70.00
	Sub-Total	$320.00
	TOTAL	3,393.67

EXHIBIT 4

LITTLE BONANZA #3

Dismantleing and Site Cleanup

Structure Removal

30 Ton Crane	4 hrs @ $101.16/hr	$ 404.64
Laborers	4 men 2 days @ $140/man/day	1,120.00

All equipment to be used in the process owned by Ziegler except for the crane

Sub-Total	$1,524.64

Earthwork and Grading

Grader - Front End Loader, Dump Truck
(Equipment owned by Ziegler man hours only)

3 hrs 3 men @ $17.50/hr.	$157.50
3 hrs @ 76.12/hr.	228.36

Revegation

As per state figures

1.14 ac. @ $667.92/ac.	$758.85

Capping	4 yds @ $63/yd.	$250.00
	4 hrs labor @ $17.50/hr.	70.00
	Sub-Total	$320.00
	TOTAL	$2,989.35

EXHIBIT 5

LITTLE BONANZA #11

1.01 Acres

Dismantleing and Site Cleanup

Structure Removal

30 Ton Crane	4 hrs @ $101.16/hr	$ 404.64
Laborers	4 men 2 days @ $140/man/day	1,120.00

All equipment to be used in the process owned by Ziegler except for the crane

Sub-Total	$1,524.64

Earthwork and Grading

Grader - Front End Loader, Dump Truck
(Equipment owned by Ziegler man hours only)

D6 Dozer	1 hr @ $76.12/hr.	$ 76.12
	3 men 2 hrs @ $17.50/hr	105.00

Revegation

As per state figures

1.01 ac. @ $667.79/ac.	$674.47

Capping	4 yds @ $63/yd.	$250.00
	4 hrs labor @ $17.50/hr.	70.00
	Sub-Total	$320.00
	TOTAL	$2,700.23

EXHIBIT 6

LITTLE BONANZA #12

1.51 Acres

Dismantleing and Site Cleanup

Structure Removal

30 Ton Crane	4 hrs @ $101.16/hr	$ 404.64
Laborers	4 men 2 days @ $140/man/day	1,120.00

All equipment to be used in the process owned by Ziegler except for the crane

Sub-Total	$1,524.64

Earthwork and Grading

Grader - Front End Loader, Dump Truck
(Equipment owned by Ziegler man hours only)

D6 Dozer	2 hrs @ $76.12/hr.	$152.24
	3 men 3 hrs @ $17.50/hr	157.50

Revegation

As per state figures

	1.51 ac. @ $667.79/ac.	$1,008.36
Capping	4 yds @ $63/yd.	$250.00
	4 hrs labor @ $17.50/hr.	70.00
	Sub-Total	$320.00
	TOTAL	$3,162.74

EXHIBIT 7

LITTLE EMMA

Dismantleing and Site Cleanup

Structure Removal

30 Ton Crane	4 hrs @ $101.16/hr	$ 404.64
Laborers	4 men 2 days @ $140/man/day	1,120.00

All equipment to be used in the process owned by Ziegler except for the crane

Sub-Total	$1,524.64

Earthwork and Grading

Grader - Front End Loader, Dump Truck
(Equipment owned by Ziegler man hours only)

D6 Dozer	4 hrs @ $76.12/hr.	$304.48
	3 men 4 hrs @ $17.50/hr	210.00

Revegation

As per state figures

	1.10 ac. @ $667.79/ac.	$734.57
Capping	4 yds @ $63/yd.	$250.00
	4 hrs labor @ $17.50/hr.	70.00
	Sub-Total	$320.00
	TOTAL	$3,193.69

EXHIBIT 8

COTTONWOOD #1

Dismantleing and Site Cleanup

Structure Removal

30 Ton Crane	4 hrs @ $101.16/hr	$ 404.64
Laborers	4 men 2 days @ $140/man/day	1,120.00

All equipment to be used in the process owned by Ziegler except for the crane

Sub-Total	$1,524.64

Earthwork and Grading

Grader - Front End Loader, Dump Truck
(Equipment owned by Ziegler man hours only)

3 men 2 hrs @ $17.50/hr	$105.00

Revegation

As per state figures

1.24 ac. @ $667.79/ac.	$827.84

Capping	4 yds @ $63/yd.	$250.00
	4 hrs labor @ $17.50/hr.	70.00
	Sub-Total	$320.00
	TOTAL	$2,777.48

EXHIBIT 9

COTTONWOOD #2

Dismantleing and Site Cleanup

Structure Removal

30 Ton Crane	4 hrs @ $101.16/hr	$ 404.64
Laborers	4 men 2 days @ $140/man/day	1,120.00

All equipment to be used in the process owned by Ziegler except for the crane

Sub-Total $1,524.64

Earthwork and Grading

Grader - Front End Loader, Dump Truck
(Equipment owned by Ziegler man hours only)

1/2 hr @ $17.50/hr $8.75

Revegation

As per state figures

0.50 ac. @ $667.79/ac. $343.40

Capping

(at this point no capping is necessary - no shaft built)

TOTAL $1,876.79

EXHIBIT 10

TOTALS

		Acres
Little Bonanza #12	$3,162.74	1.51
Little Bonanza #11	2,700.23	1.01
Little Bonanza #3	3,043.35	1.14
Little Bonanza #4 1	3,393.67	2.11
Little Emma #7	3,193.69	1.10
Cottonwood #1	2,707.48	1.24
Cotoonwood #2	1,876.79	.50
Independent #3	2,871,37	1.38
Independent #4	2,884.73	1.41
Independent #5	3,236.74	1.20
TOTAL MINE REHABILIATION	$29,070.79	12.6
		1.00
		13.6

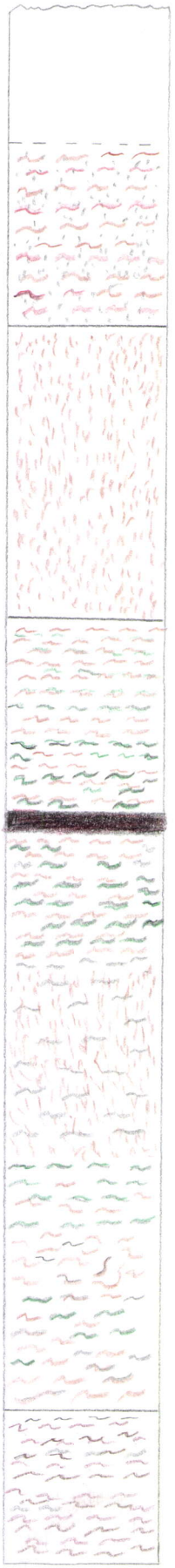
8-A

EXHIBIT 11

SHOPS, PROCESSING PLANTS, AND OTHER FACILITIES

Demolition and Removal		
Structue Removal		
30 Ton Crane	24 hrs @ $101.16/hr	$2,427.84
Tractor Trailers	80 hrs @ $64.23/hr	5,138.40
Laborers	320 hrs @ $17.50/hr	5,600.00
Earthwork and Grading		
D6 Dozer	40 hrs @ $67.79/hr	2,711.60
Revegetation		
	20.58 Acres @ $669.79/acre	13,743.12
	Sub-Total	$29,620.96
Reclamation Maintenance and Montoring		2,654.44
	Sub-Total all Areas	$61,346.19
Supervision	3 months 520 hrs @ $31.95/hr	16,614.00
10% Contingency and Engineering Costs		7,796.00
	Sub-Total in 1986 Dollars	$85,756.00
Sub-Total with escalation @ 1.62%/yr for 5 yrs. (1991 Dollars)		$92,930.97
Total bond amount to the nearest $1000 in 1991		$93,000.00

EXHIBIT 12



GEOLOGIC DESCRIPTION

Duchesne River: Sandstones, mudstones and siltstones; Red and yellowish brown; thickness approximately 2500 feet

Uintah Formation:

Unit B: Sandstones and shales; brownish red, gray and yellowish brown; thickness approximately 500 feet.

Unit A: Sandstones; yellowish brown, fine grained, massive; thickness approximately 800 feet

Green River Formation:

Parachute Creek member: Gray green and yellowish brown marlsontes, oil shales; thickness approximately 500 feet

Mahogany Zone: Oil shale beds

Douglas Creek member: Shales, siltstones and oolitic limestones; thickness approximately 1800 feet

Wasatch Formation: Claystones, mudstones and sandstones; maroon, gray and brown

EXHIBIT 13

EXHIBIT 14

THE DIRT DOCTOR
2424 S. 2000 E.
NAPLES, UTAH 84078
801-781-1372

Feb. 9, 1987

Norman Haslem
Ziegler Chemical and Minerals
Star Route
Little Bonanza, Utah 84078

Dear Norman,

The following are the results of the soils analyses for the 6 samples you supplied me:

Sample: 1 (Grinder)
texture: sandy loam
pH: 8.5
electrical conductivity: 8.4 mmhos
saturation %: 32
Ca (calcium): 32 meq/l
Mg (magnesiun): 11 meq/l
Na (sodium): 43 meq/l
SAR: 6.6
Phosphorous (as P): 21 ppm
Other: Saline tolerant species are recommended for revegetation.

Sample: 2 (B-11)
texture: sandy loam
pH: 8.5
electrical conductivity: 0.4 mmhos
saturation %: 36
Ca: 2.5 meq/l
Mg: 0.9 meq/l
Na: 2.0 meq/l
SAR: 1.1
P: 13 ppm

Sample: 3 (LE-7)
texture: loam
pH: 8.4
electrical conductivity: 1.5 mmhos
saturation %: 42
Ca: 8.7 meq/l
Mg: 3.2 meq/l
Na: 3.6 meq/l

SAR: 1.0
P: 22 ppm

Sample: 4 (Cottonwood)
texture: sandy clay loam
pH: 8.8
electrical conductivity: 2.0 mmhos
saturation %: 48
Ca: 3.2 meq/l
Mg: 0.6 meq/l
Na: 31.2 meq/l
SAR: 16.0
P: 12 ppm
Other: Alkali (sodium) tolerant species are recommended for revegetation. Surface sealing may occur but addition of calcium chloride at 50 lbs/acre to the recommended fertilizer rate should help overcome this limitation.

Sample: 5 (Plant)
texture: sandy loam
pH: 8.4
electrical conductivity: 0.3 mmhos
saturation %: 35
Ca: 2.7 meq/l
Mg: 1.1 meq/l
Na: 1.9 meq/l
SAR: 1.0
P: 12 ppm

Sample: 6 (I5)
texture: sandy loam
pH: 8.4
electrical conductivity: 0.2 mmhos
saturation %: 31
Ca: 3.0 meq/l
Mg: 1.1 meq/l
Na: 1.9 meq/l
SAR: 0.9
P: 13 ppm

Sincerely,

Richard A. Foster

Richard A. Foster, CPSS

Draft

Please notify me of any changes which may be appropriate

NPDES

Statement of Basis
Ziegler Chemical and Mineral Corp.
Little Bonanza, Utah
Gilsonite Mining Operation
Minor discharge
Permit Number: UT-023868 (Renewal)
SIC: 1499

Receiving Waters: Discharge to a dry wash tributary to Coyote Wash, a tributary of the White River.

Classification: The beneficial use classification is 1C, 3C and 4, for the White River and tributaries.

Facility Contact: Norman R. Haslam - General Supervisor
Ziegler Chemical & Mineral Corp.
Star Route
Vernal, Utah 84078
(801)-789-3593

Description of Facility:

Ziegler Chemical and Mineral Corporation operates a Gilsonite mining operation with three current shafts. The permittee has proposed two additional shafts which may require dewatering. The Gilsonite is sold as a base for manufacture of dye products but can be converted to usable fuels. The production rate is approximately 15,000 tons per year.

The waters are removed periodically from mining areas for safety during operation. No treatment is presently undertaken for these mine waters.

Description of Discharge:

The DMR reports indicate a maximum salt release of 2990 mg/l and 390 lbs/day from any discharge point. Discharge occurs at a rate of one day per week. The values for all of the discharge parameters appear to be within the limitations established in the permit in 1981. The discharge of less than 20,000 gallon/day one day/week probably does not create enough surface flow to reach the White River. However, ground water flow will likely be contributing to the overall flow and salt load to the Colorado River drainage.

There is no process water to be discharged from this facility. The discharge is of naturally occurring mine waters and comes from the local aquifer 500 to 800 feet below the surface. It is likely at this level that the water is contributing to the Colorado River drainage regardless of mine removal to the surface. However, this has not been substantiated by a geological evaluation of the area.

Basis for Effluent Limitations:

Limitations for daily average total suspended solids and pH range are based on Utah secondary treatment standards. The 10 mg/l oil and grease is based upon best professional judgement (BPJ). The former iron limitation has been deleted since the data has not indicated any problem with this parameter. EPA effluent guidelines (CFR436.62) for Asphaltic Mineral subcategory of the Mineral Mining and Processing Industry require no discharge of process water. A 3500 mg/l total dissolved solids (TDS) maximum limitation has been added to be consistent with salinity limitations for the other gilsonite facility in the vicinity. The company is meeting all the effluent limits now.

Colorado River Basin Salinity Control Considerations:

The objective of the salinity standards is to have no salt return whenever practicable. The permit does not allow the discharge of any process water. The limitation of 500 pounds per day on intercepted groundwater is within the one ton/day category which does not require further evaluation.

Self Monitoring Requirements:

Monthly grab samples of total suspended solids are required when the discharge occurs (dewatering of the mines is only done periodically when needed). Total dissolved solids, pH and oil and grease are to be sampled quarterly. The analyses are to be performed according to EPA approved test procedures. Results are to be summarized and reported quarterly on approved forms.

Permit Duration:

The permit is to be issued for approximately the 5 year period, lasting until April 30, 1991.

Drafted by:
Brian L. Nelson, State of Utah
22 April 1986
Revised May 6, 1986 by Steven McNeal

pa
678K

MINING = MI

DISK: 0513A

DOCUMENT: 7794D

Permit No. UT-0023868

Effective Date: Date of Issuance*

Expiration Date: April 30, 1991

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended (33 U.S.C. 1251 et. seq.) (hereinafter referred to as "the Act"),

the Ziegler Chemical & Mineral Corporation,

is authorized by the United States Environmental Protection Agency,

to discharge from a Facility located one (1) mile north and west of Bonanza, Utah,

to a dry wash contributory to Coyote Wash draining to the White River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III, hereof.

Authorized Permitting Official

Date

Max H. Dodson
Acting Director
Water Management Division
Title

*Thirty (30) days after the date of receipt of this permit by the Applicant.

Renewal applied for and pending.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning immediately and lasting through April 30, 1991 the permittee is authorized to discharge from all point sources associated with active mining operations ~~indicated on the area maps submitted and approved pursuant to Part III, A.1~~. Such discharges shall be limited and monitored by the permittee as specified below: 001-005

Effluent Characteristics	Discharge Limitations a/ Daily Average	7-Day Average	Daily Maximum	Monitoring Requirements Measurement Frequency	Sample Type
Flow - m^3/Day, gpd	N/A	N/A	N/A	Monthly	est
Total Suspended Solids mg/l	25	35	50	Monthly	Grab
~~Total Iron~~					
Total Dissolved Solids mg/l	N/A	N/A	3500	Quarterly b/	Grab

Oil and Grease shall not exceed 10 mg/l and shall be monitored ~~monthly~~ quarterly by a grab sample. there shall be no visible sheen and/or floating oil in any discharge. Each discharge shall be visually examined weekly for a sheen and/a floating oil
The pH shall not be less than 6.5 standard units nor greater than 9.0 standard units and shall be monitored ~~monthly by~~ quarterly by a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.
There shall be no discharge of process wastewater.
There shall be no discharge of sanitary wastes.

2. See Schedule of Compliance. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at any point which is representative of each discharge prior to its mixing with the receiving stream ~~and as indicated by the solid triangles on the current area maps submitted pursuant to Part III, A.1~~.

a/ See Part I., C.3.

~~b/ If any Iron analysis exceeds this limitation, the State of Utah and the permittee shall review the actions necessary to achieve compliance with the limitation and the continued appropriateness of the limitation. In no event shall the discharge exceed a daily maximum limitation for Total Iron of seven (7) milligrams per liter.~~

~~c/ For the intermittent discharges, the duration of the discharge shall be reported.~~

b c/ The total amount of Total Dissolved Solids (TDS) discharged from all outfalls is limited to ~~one ton (2,000 pounds)~~ (500 pounds) per day of TDS.

If a sheen and/or floating oil is observed the necessary corrective action shall be taken as soon as possible.

STATE OF UTAH
DEPARTMENT OF HEALTH

From Steven R. McNeal, P.H.E.
Bureau of Water Pollution Control
Division of Environmental Health

P.O. Box 45500 84145-0500
150 W.N. Temple, Salt Lake City, UT 84103-801-533-6146

538-6101 - Health Dept

COPY

MI

Permit No.: UT-0023868

AUTHORIZATION TO DISCHARGE UNDER THE

NPDES NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended (33 U.S.C. 1251 et. seq.)(hereinafter referred to as "the Act"),

the Ziegler Chemical & Mineral Corporation,

is authorized to discharge from a facility located one (1) mile north and west of Bonanza, Utah,

to a dry wash contributory to Coyote Wash draining to the White River,

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on the date of issuance.*

This permit and the authorization to discharge shall expire at midnight, June 30, 1986.

Signed this 30th day of September, 1981.

Roger J. Frenette

Acting Director
Enforcement Division

*Thirty (30) days after the date of receipt of this permit by the Applicant.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning immediately, and lasting through June 30, 1986, the permittee is authorized to discharge from mine outfalls serial numbers 001, 002, and 003. (See Location Map, Part III)

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Discharge Limitations			Monitoring Requirements	
	Concentration			Measurement	Sample
	30-Day Avg.	7-Day Avg.	Daily Max.	Frequency	Type
Flow - m^3/Day (MGD)	N/A	N/A	N/A	Monthly	1/
Total Suspended Solids	25	35	50	Quarterly 2/	Grab
Total Iron	N/A	N/A	2.0	Quarterly 2/	Grab

The concentration of Oil and Grease shall not exceed 10 mg/l in any grab sample nor shall there be a visible sheen and/or floating oil in any discharge. Each discharge shall be visually examined weekly for a sheen or floating oil and the results recorded. If a sheen and/or floating oil is observed, the necessary corrective action shall be taken as soon as possible.

The combined quantity of Total Dissolved Solids discharged from the three outfalls shall not exceed 220 pounds per day as a 7-day average or 440 pounds in any one day. The discharges shall be monitored quarterly 2/ by grab samples. 3/

The pH shall not be less than 6.5 standard units nor greater than 9.0 standard units and shall be monitored quarterly 2/ by a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: At the outfall to the dry wash from each mine dewatering pump outlet, see Part III.

1/ From weir, flume or calculated from pumping time and pump rating curves.

2/ Samples shall be taken during the first day of any discharge and quarterly thereafter for a continuous discharge.

3/ The quantity of Total Dissolved Solids shall be determined by the concentration and the flow at the time the sample was taken. The quantity for each outfall shall be added to determine the combined quantity for the three outfalls.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. Elimination of Discharges

The permittee shall submit to the Utah State Department of Health, in less than 180 days after the modification of this permit, a report demonstrating that the achievement of no discharge from this facility is not practicable. The demonstration shall consist of a cost-effective comparison between estimated costs for attaining no discharge and damages as indicated by the Colorado River Basin Salinity Control Forum's Policy. The report must also include information on the following:

a. Geology cross-section, indicating the elevations of the surface, intercepted mine water and adjacent streams.

b. Estimate of groundwater source and direction of flow prior to being intercepted in the mine.

Limitations on Total Dissolved Solids shall be revised as appropriate and in accordance with salinity standards or limitations that are established for the Colorado River Basin.

If the report does not adequately demonstrate that "no discharge" is not practicable, this permit will be revoked following administrative procedures outlined in 40 CFR 125.22(a) and 125.36, and State regulations, as appropriate. The determination as to the adequacy of the report shall be made by the Utah State Department of Health.

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

Monitoring results obtained during the previous 3 month(s) shall be summarized and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. The first report is due on January 28, 1982 . Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator and the State of Utah at the following addresses:

U.S. Environmental Protection Agency
Suite 103, 1860 Lincoln Street
Denver, Colorado 80295
Attention: Enforcement - Permits

Utah Department of Health
Division of Environmental Health
Bureau of Water Pollution Control
P.O. Box 2500
Salt Lake City, Utah 84110

3. Definitions

a. The "30-day average" limitation shall be determined by the arithmetic mean of a minimum of three (3) consecutive samples taken on separate weeks in a 30-day period (minimum total of three (3) samples).

b. The "7-day average" limitation shall be determined by the arithmetic mean of a minimum of three (3) consecutive samples taken on separate days in a 7-day period (minimum total of three (3) samples).

c. The "daily maximum" concentration shall be determined by the analysis of a properly preserved sample taken in a manner representative of the discharge.

d. The seven-day average limitation on Total Dissolved Solids means the total discharge by weight during a seven-day period as determined by a minimum of three (3) samples taken on separate days during a seven-day period.

B. MONITORING AND REPORTING (Continued):

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(h) of the Act, under which such procedures may be required.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;
b. The dates the analyses were performed;
c. The person(s) who performed the analyses;
d. The analytical techniques or methods used; and,
e. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form (EPA No. 3320-1). Such increased frequency shall also be indicated.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the State of Utah water pollution control agency.

A. MANAGEMENT REQUIREMENTS

1. *Change in Discharge*

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. *Noncompliance Notification*

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Regional Administrator and the State with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the discharge and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

3. *Facilities Operation*

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

4. *Adverse Impact*

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. *Bypassing* (See additional requirements under PART III)

Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Regional Administrator and the State in writing of each such diversion or bypass.

6. *Removed Substances*

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

7. *Power Failures*

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or, if such alternative power source is not in existence, and no date for its implementation appears in Part I,

b. Halt, reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

B. RESPONSIBILITIES

1. *Right of Entry*

The permittee shall allow the head of the State water pollution control agency, the Regional Administrator, and/or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. *Transfer of Ownership or Control*

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Regional Administrator and the State water pollution control agency.

3. *Availability of Reports*

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public

inspection at the offices of the State water pollution control agency and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

4. *Permit Modification*

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. *Toxic Pollutants*

Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. *Civil and Criminal Liability*

Except as provided in permit conditions on "Bypassing" (Part II, A-5) and "Power Failures" (Part II, A-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

7. *Oil and Hazardous Substance Liability*

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

8. *State Laws*

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. *Property Rights*

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. *Severability*

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PART III

OTHER REQUIREMENTS

Additional Bypassing Requirements

If, for other reasons, a partial or complete bypass is considered necessary, a request for such bypass shall be submitted to the State of Utah and to the Environmental Protection Agency at least sixty (60) days prior to the proposed bypass. If the proposed bypass is judged acceptable by the State of Utah and by the Environmental Protection Agency, the bypass will be allowed subject to limitations imposed by the State of Utah and the Environmental Protection Agency.

If, after review and consideration, the proposed bypass is determined to be unacceptable by the State of Utah and the Environmental Protection Agency, or if limitations imposed on an approved bypass are violated, such bypass shall be considered a violation of this permit; and the fact that application was made, or that a partial bypass was approved, shall not be a defense to any action brought thereunder.

Reapplication

If the permittee desires to continue to discharge, he shall reapply at least one hundred eighty (180) days before this permit expires using the application forms then in use. The permittee should also reapply if he desires to maintain a permit, even though there was not a discharge from the treatment facilities during the duration of this permit.

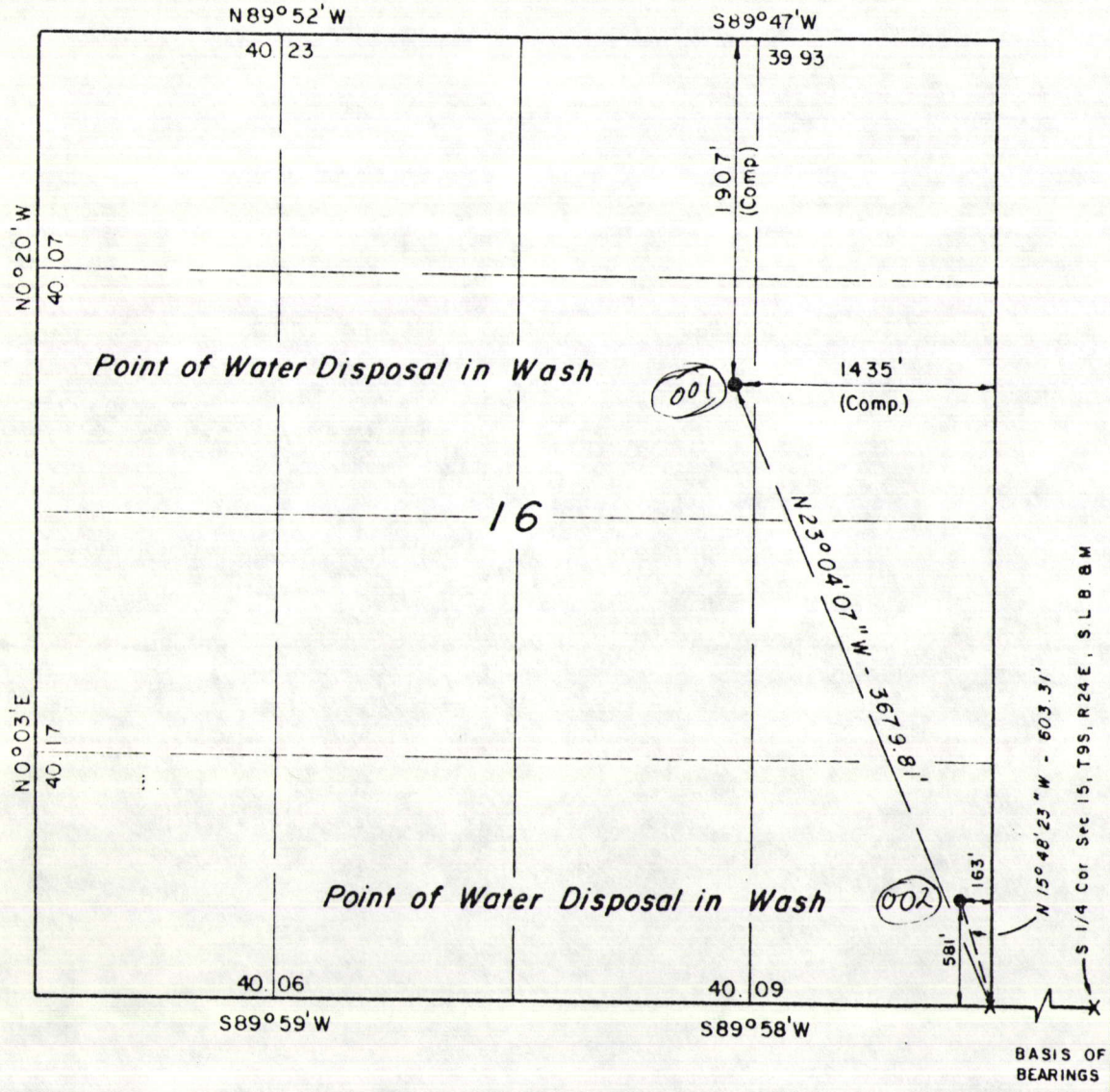
Locations 1 & 2

T 9 S , R 24 E , S.L.B.&M

PROJECT

ZIEGLER CHEMICAL & MINERAL CORP.

Point of Water Disposal in Wash, located as shown in the SW 1/4 NE 1/4 & SE 1/4 SE 1/4 Section 16, T9S, R24E, S.L.B.&M. Uintah County, Utah.



X = Section Corners Located

RECEIVED
JUL 15 1981
Utah ... Of
Environmental Health

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Laurance P. Kay

REGISTERED LAND SURVEYOR
REGISTRATION NO. 3137
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P.O. BOX Q – 85 SOUTH – 200 EAST
VERNAL, UTAH - 84078

SCALE	1" = 1000'	DATE	7/7/81
PARTY	DK BJ AT RP	REFERENCES	GLO Plat
WEATHER	Fair	FILE	ZIEGLER

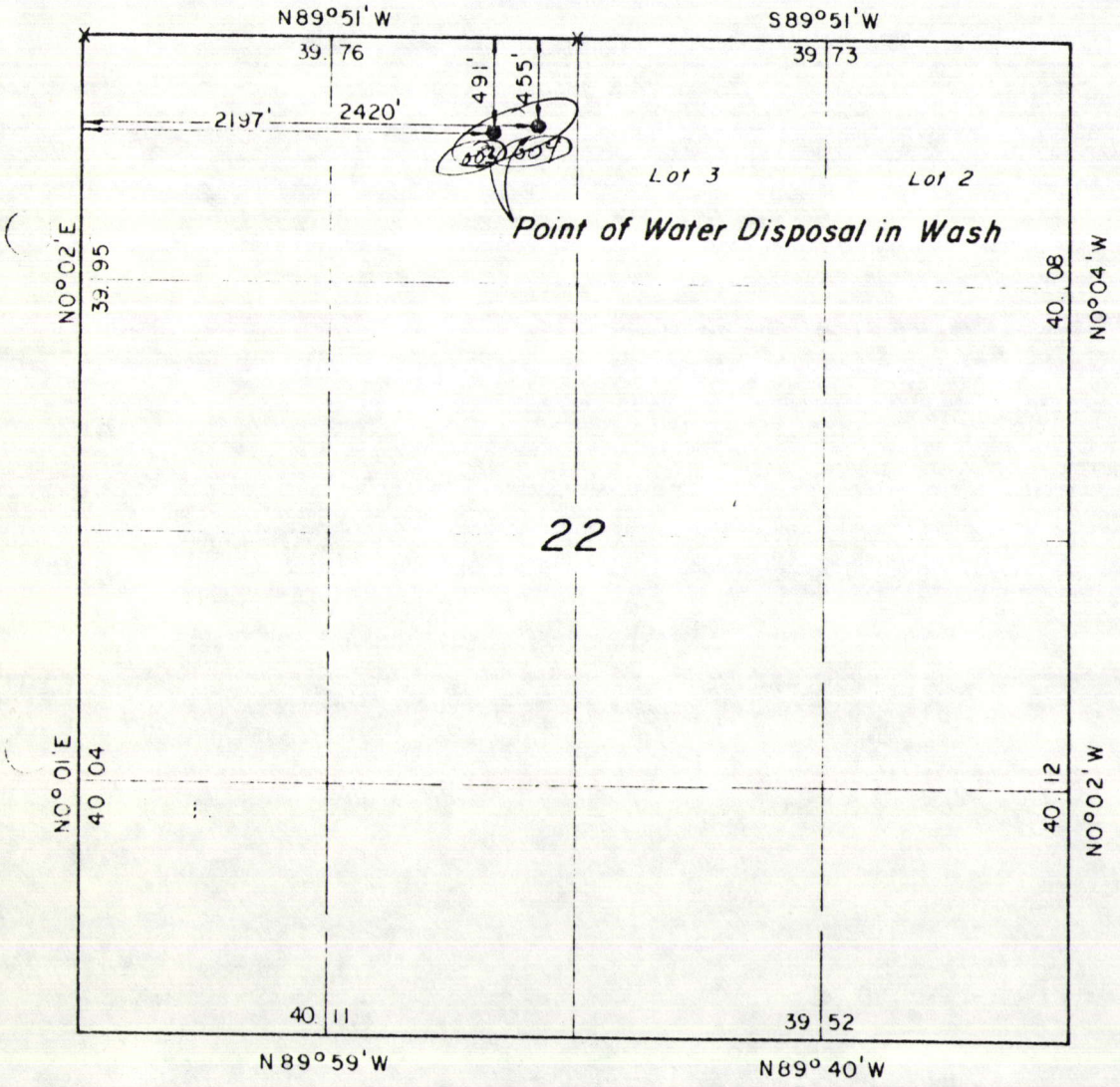
Locations 3 & 4

T 9 S , R24E , S.L.B.&M.

PROJECT

ZIEGLER CHEMICAL & MINERAL CORP

Point of Water Disposal in Wash, located as shown in the NE 1/4 NW 1/4 Section 22, T9S, R24E, S.L.B.&M. Uintah County, Utah.



X = Section Corners Located

CERTIFICATE

I HEREBY CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Lawrence C. Kay
REGISTERED LAND SURVEYOR
REGISTRATION No. 3137
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P O BOX Q — 85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 7/7/81
PARTY DK BJ AT RP	REFERENCES GLO Plat
WEATHER Fair	FILE ZIEGLER